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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,751	10/14/2003	Randall C. Jenkines	62360A	4042

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The Dow Chemical Company
Intellectual Property Section
P.O. Box 1967
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EXAMINER	
TSOY, ELENA	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/684,751	**Applicant(s)** JENKINES ET AL.	
	Examiner Elena Tsoy	**Art Unit** 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 November 2007.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20,33 and 34 is/are pending in the application.

4a) Of the above claim(s) 17,18,20,33 and 34 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-16 and 19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 18 September 2006 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

Amendment filed on November 12, 2007 has been entered. Claims 21-32, and 35 have been cancelled. Claims 1-20, and 33-34 are pending in the application. Claims 17-18, 20, 33-34 are withdrawn from consideration as directed to a non-elected invention.

Claim Objections

1. Objection to claims 1, 2, 4, 7, 9, 10, 12, 13, 15 because of the informalities has been withdrawn due to amendment.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-16, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites a limitation "(D.) forming agglomerates from the *melt* mix of (C.), wherein the *melt*-mixing and *agglomeration* is done **at** a temperature of 150° C to about 220° C such that the fragments are *softened* but not *totally melted* during mixing and agglomeration", which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed discloses that in one embodiment, **the extruder** is operated at a temperature of about 150° to about 270°,

preferably about 170° to about 250°, most preferably about 215° C; and the agglomeration is carried out in the extruder by compressing a molten mixture at **room** temperature (See column 14, lines 3-6). In another embodiment, a shredded material is sintered by frictional heat between the rotating and stationary discs; then the material passes ***quickly*** through the compression section in seconds, **limiting the exposure to temperature** (See page 14, line 12-20). Therefore, there is not support for the limitation "*melt*-mixing and *agglomeration* is done **at** a temperature of 150° C to about 220° C".

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Rejection of claims 21-32 and 35 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn due to cancellation of the claims.

6. Claims 1-16, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites a limitation "(D.) forming agglomerates from the *melt* mix of (C.), wherein the *melt*-mixing and agglomeration is done at a temperature of 150° C to about 220° C such that the fragments are *softened* but not *totally melted* during mixing and agglomeration", which is confusing because "softening" of a material means generally that the material did not reach the melting temperature yet. Therefore, the use of the term "softened" with the term "*totally* melted" or "melt"/"melting" is confusing.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mirasol et al (WO9825984) in view of Zegler et al (US 20010009710).

Mirasol et al disclose a continuous process for preparing filled polymer carpet backings comprising incorporating high loadings of filler materials such as recycled waste material from a carpet manufacturing process, e.g. mixture of fibrous materials, ground polymer waste of particle size **less** than 2 mm, polyurethane from carpet underlays (See page 6, lines 16-28) into a virgin carpet backing formulation containing e.g. polyisocyanate as a reactive diluent and polyol for preparing filled foamed polyurethane layers (See Abstract; page 4, lines 20-24), catalyst (See page 8, lines 24-30), *blowing* agent (See page 8, line 24).

Mirasol et al fail to teach that filler is a ground powder made by claimed process.

Zegler et al teach that a filler material from recycled carpet scrap (claimed step A.); for preparing carpet backings in a new floor covering (See P10) may be prepared by grinding coarsely chopped waste polymer material of 3/4 to **1 inch** in width portions (claimed step B.) into *fragments* of 3/8 inch in a granulator 40 (See P29); transporting the granulated mixture **40a** to a densifier 41, which is designed to heat, ***melt***, and form or *compact* solid smaller pieces of the granulated mixture **40a** such that the density of the granulated material 40a is increased. The densifier 41 **blends** the granulated material **40a** (claimed step C.), which can be in the form of a fluffy, **fibrous** material with **solid polymeric particles** to form the densified material 42 which is in the shape of *semi-uniform* pellets (claimed agglomerates of non-completely melted particles) (See P30); grinding the granulated mixture **40a** in a cryogenic grinder (See P31); transporting the ground material 42A to a Gaylord loading station 45 and/or to a silo 46 (See P31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a powder produced by method of Zegler et al as recycled carpet filler in Mirasol et al because Mirasol et al teach that filler could be a mixture of all carpet components, and powder of Zegler et al contains mixture of all carpet components.

As to the carpet scrap comprising a derivative from polyol and polyisocyanate (i.e. polyurethane) and polyester or polyolefin, the Examiner takes official notice that the claimed carpet scrap materials are conventional materials used for making carpets. For example, Mirasol et al teach that carpet *backing* can be made from *polyurethane* (See Abstract; page 4, lines 20-24), and Zegler et al teach that a particularly large amount of scrap material is generated *during the manufacture* of floor covering; for example, in the manufacture of tufted carpet, the tufted carpet may have *nylon* pile secured in a primary backing of a woven *polypropylene* fabric (claimed substrate), which has a secondary *vinyl* plastic backing (See P6).

As to claims 3, 23, Mirasol et al teach in Example 1 that a reactive mixture may be formed by combining polyol, polyisocyanate, and filler. It is well settled that selection of any order of mixing ingredients is prima facie obvious. In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made a reactive mixture of Mirasol et al by combining filler with polyol or polyisocyanate with the expectation of providing the desired reactive mixture.

As to claims 4-6, 24-25, Mirasol et al teach that the ground powder may be combined with an aqueous polymer containing emulsion or dispersion (See page 10, lines 24-29) such as SB latex (See page 11, line 4).

As to claims 7-8, 26, Mirasol et al teach that a filled polymer composition can be made with different polymers. However, Mirasol et al fail to teach that a polymer composition is made by combining filler with a thermoplastics such as PE, PP, PVA, PVC.

Zegler et al teach that a particularly large amount of scrap material is generated during the manufacture of floor covering, for example, in the manufacture of the tufted carpet that may have *nylon* pile secured in a primary backing of a woven *polypropylene* fabric (claimed substrate), which has a secondary ***vinyl*** *thermoplastic* backing (See P6). The waste polymeric material (scrap) 15, such as carpet remnants or carpet tiles, *typically* comprises a wide variety of *thermoplastic* material generated during the manufacture of floor coverings and generated in the disposal of used floor coverings such as aliphatic polyamides, polyolefins (e.g., *polyethylene and polypropylene*), **polymers** based on ***vinyl*** monomers (e.g., *vinyl chloride* and *vinyl acetate*), polymers based on acrylic monomers (e.g., acrylic acid, methyl acrylic acid, esters of these acids, and acrylonitrile), other thermoplastic polymers, and ***blends*** and copolymers thereof (See P28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined recycled carpet powder with vinyl polymers including thermoplastics such as PE, PP, PVA, PVC for making carpets since Mirasol et al do not limit their teaching to particular filled polymer compositions and Zegler et al teach that carpets are made typically from PE, PP, PVC, PVA.

As to claim 13, obviously, melting time would depend on size of shredded carpet samples. It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant shredded size of carpet samples parameters (including those of claimed invention) in the cited prior art through routine experimentation in the absence of showing of criticality.

Response to Arguments

9. Applicant's arguments with respect to claims 1-16, and 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-142323. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ELENA TSOY
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December 11, 2007